

REMARKS

Claims 1 to 8 were rejected as obvious under 35 U.S.C. 103 (a) over Tanaka, et al, in view of Bakker, et al, and further in view of Haselby, et al, or Kritchevsky, et al.

New claims 9 to 12 have been filed and the original claims 1 to 8 have been canceled.

New claim 9 is similar to canceled claim 1, but claims a door for a microwave unit with a viewing window that has means for blocking microwave radiation while allowing viewing of the interior of the microwave unit. The means for blocking microwave radiation is a fine woven metallic fabric instead of a comparatively rigid perforated plate or comparatively heavy metallic screen as in prior art microwave units. The fine woven metallic fabric consists of thin metal wires preferably woven in a linen or plain weave (claim 10).

Claim 9 is considerably more limited than the original claim 1 because the thin wire thickness is limited to from 0.02 to 0.06 mm and the spacing is limited to from 0.09 to 0.12 mm. Because of this very small wire or fiber thickness and the stated spacing there is practically no noticeable blocking of the viewing of the interior. Thus viewing is considerably improved, while still blocking the microwave radiation to the required extent (first paragraph on page 4 of applicants' specification).

Tanaka, et al, do disclose a door for a microwave unit with a viewing

window, which includes a metallic screen 23 for blocking or attenuating microwaves.

However the metallic screen of Tanaka, et al, is composed of wires with a **required** thickness in a range of from 0.1 to 0.4 mm with a **required** spacing in a range of 0.18 to 0.92 mm (see claim 1 and column 1, lines 64 to 68). The claimed invention of Tanaka, et al, is clearly limited to a metallic screen made of wires in this thickness range and with this spacing (see claim 1 of this patent).

Tanaka, et al, contains teaching against the invention claimed in new claim 9, because claim 9 **requires** a much thinner wire thickness and smaller spacing, namely a thickness of 0.02 to 0.06 mm and a spacing of 0.09 to 0.12 mm. In other words, the claimed invention of claim 9 is limited to much smaller wire or fiber thickness and spacing well outside of the required spacing and thickness ranges of Tanaka, et al, as shown by claim 1 of the reference.

Tanaka, et al, explains the reason for limiting the wire thickness and spacing in column 6, lines 13 to 20. The reason is that at the time of invention of Tanaka, et al, metal wires of smaller diameter than 0.1 mm could not be woven as a practical matter into a wire mesh or they would be very troublesome because of their low tensile strength.

It is well established that a reference that contains teaching against or the opposite from a claimed invention should not be used under 35 U.S.C. 103 (a), either alone or in combination with other references, to reject the claimed invention. See M.P.E.P. 2145 X. D, For example, the Federal Circuit Court of Appeals has said:

"That the inventor achieved the claimed invention by doing what those skilled in the art suggested should not be done is a fact strongly probative of nonobviousness." in *Kloster Speedsteel AB v. Crucible Inc.*, 230 U.S.P.Q. 81 (Fed. Cir. 1986), on rehearing, 231 U.S.P.Q. 160 (Fed. Cir. 1986).

Tanaka, et al, (in claim 1 of that reference) clearly teaches against or the opposite of the applicants' invention as it is now claimed in the above claim 9. *According to Tanaka, et al, it is surprising or unexpected that a door for a microwave unit can be made with a fine woven fabric consisting of thin metal wires with the stated thickness and spacing according to applicants' new claim 9 to prevent microwave emissions from the unit during operation.* The applicants' door provides exceptionally and surprisingly better viewing of the microwave interior, but still provides the required microwave emissions blocking according to page 6, paragraph 1, of applicants' specification.

Thus the claimed door is surprisingly and unexpectedly better than the door according to Tanaka, et al.

None of the secondary references, Bakker, et al, Kritchevsky, et al; or Haselby, et al; disclose a door for a microwave unit with a window provided with shielding means to prevent **microwave** leakage through it or to prevent the passage of **microwaves** through the window.

Bakker, et al, do not disclose a door for a microwave unit or anything regarding microwave units. They disclose a window for electrical or electronic devices with shielding means for preventing **radio frequency** leakage (see column 1, line 11, 40). Also the purpose is to be able to observe operation of

"instruments". Radio frequencies are a wide electromagnetic frequency range from below 3 KHz to about 300 Ghz. Microwaves are only a small part of this very wide range. Bakker, et al, do not disclose or suggest features of the wire mesh, such as the wire diameters and spacing, that provide special benefits for shielding **microwaves**, as claimed in the above claim 9.

Bakker, et al, teach a wire mesh made with comparatively thick wires, which can be replaced by perforated metal plate (column 2, line 39 to 40). Thus this reference discloses exactly the prior art shielding structure that applicants' invention is designed to replace to provide better viewing of the interior (see the background section of applicants' specification). Neither Tanaka, et al, nor Bakker, et al, disclose or suggest a fine woven fabric (of course with the small diameters and spacing of claim 9), but instead disclose wire mesh or screen that is made with comparatively larger diameter wires for mechanical strength.

Kritschinsky, et al, do disclose a polymeric composite with an EMI/RFI shielding layer. The shielding layer according to claims 1 and 13 must be a thermoplastic woven fabric containing metal fibers, such as steel fibers (example 8). Kritschinsky, et al, do not disclose any improvements for microwave ovens or anything regarding microwave ovens.

Applicants' fine woven fabric "consists of" metal fibers and thus Kritschinsky, et al, do not suggest the shielding means of the applicants, because they do not disclose or suggest a fine woven fabric **consisting of** metal fibers (as claimed in claim 9) without the thermoplastic woven fibers, such as the polyester fibers of example 8.

Because the metal fibers disclosed in Kritschinsky, et al, in columns 5 and 6 are woven into a polymeric fabric, such as polyamide fabric, in the invention of Kritschinsky, as claimed e.g. in claim 1 of that reference, the dimensions of the metal fibers are not relevant to a fine woven fabric consisting of thin metal wire because the metal fibers of Kritschinsky, et al, do not need to physically support and/or hold the fabric together. Thus, as would be expected, they are considerably thinner than the fibers as claimed in applicants' new claim 9.

Kritschinsky, et al, do not disclose or suggest a fine woven fabric consisting of thin metal wires, especially in a plain or linen weave as claimed in dependent claim 10, and especially with the preferred thickness and spacing of claim 9.

Haselby, et al, is even further removed from the invention as claimed in new claim 9. It discloses a cable shield for an electrical cable to prevent the cable from radiating electromagnetic waves to its surroundings. It is described in column 2, line 12 to line 32. The cable shield is a two-layer shield with a non-conductive layer and an electrically conductive inner layer 140. This inner layer is a polyester fiber layer in which the polyester is subject to a plating process. Thus Haselby also does not disclose or suggest a fine woven fabric **consisting of** thin metal wires, especially with the dimensions stated in claim 9.

Thus none of the secondary references disclose or suggest an EM wave shielding means for a window which is a fine woven fabric consisting of metal wires, especially with the diameter and spacing of the wires of claim 9.

It is well established by many U. S. Court decisions that to reject a claimed

invention under 35 U.S.C. 103 there must be some hint or suggestion in the prior art of the modifications of the disclosure in a prior art reference or references used to reject the claimed invention, which are necessary to arrive at the claimed invention. For example, the Court of Appeals for the Federal Circuit has said:

"Rather, to establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant...Even when obviousness is based on a single reference there must be a showing of a suggestion of motivation to modify the teachings of that reference.." *In re Kotzab*, 55 U.S.P.Q. 2nd 1313 (Fed. Cir. 2000). See also M.P.E.P. 2141

In the case of the present application the secondary references, Bakker, et al; Halsby, et al; and Krtichevsky, et al; do not suggest the modifications of the primary reference, Tanaka, et al, that are necessary to arrive at the claimed invention defined by claim 9. None of the secondary references suggest that the window for the microwave unit is provided with the fine woven fabric consisting of metal wires to act to prevent microwave emissions while allowing good viewing of the interior. Particularly none of the secondary references suggests that it is practical to make a fine woven fabric of metal wires and a microwave unit door containing the metal woven fabric with the diameters and spacing of the wires of claim 9. These diameters and spacing are necessary to provide the improved blocking of microwaves according to the present invention.

Furthermore Tanaka, et al, contains teaching against the invention as claimed in claim 9, because the diameter and spacing of the wires of the woven

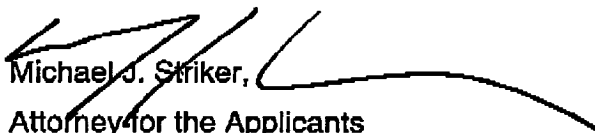
metal fabric are outside the ranges required by Tanaka, et al, on practical considerations.

For the foregoing reasons it is respectfully submitted that new claims 9 to 12 should not be rejected under 35 U.S.C. 103 (a) as obvious from Tanaka, et al, in view of Bakker, et al, and further in view of Haselby, et al, or Kritchevsky, et al.

Should the Examiner require or consider it advisable that the specification, claims and/or drawing be further amended or corrected in formal respects to put this case in condition for final allowance, then it is requested that such amendments or corrections be carried out by Examiner's Amendment and the case passed to issue. Any costs involved should be charged to the deposit account of the undersigned (No. 19-4675). Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing the case to allowance, he or she is invited to telephone the undersigned at 1-631-549 4700.

In view of the foregoing, favorable allowance is respectfully solicited.

Respectfully submitted,


Michael J. Striker,
Attorney for the Applicants
Reg. No. 27,233